

NOMENCLATURAL CHANGES IN THE ORCHIDACEAE SUBTRIBE SARCANTHINAE

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ABSTRACT. Nomenclatural changes in the Southeast Asian genera *Ascochilus*, *Phalaenopsis*, *Rhynchostylis*, and *Vanda* are proposed. The genus *Kingidium* is placed in the synonymy of *Phalaenopsis*.

As a result of literature, herbarium, and field study of the subtribe Sarcanthinae (Orchidaceae) several nomenclatural changes are required. These changes continue the recent restructuring of the subtribe by Garay (1972, 1974) and subsequent nomenclatural and taxonomic realignments (Garay & Sweet, 1974; Seidenfaden, 1975b; Tan, 1975, 1976; Tsi, 1982, 1983; Christenson, 1985a). Nomenclatural changes and discussion follow alphabetically by genus.

ASCOCHILUS RIDL.

Ascochilus mindanaensis (Ames) E. A. Christenson, comb. nov.

Thrixspermum mindanaense Ames, Philipp. J. Sci. 8: 436. 1913. TYPE: The Philippines, Mindanao, Prov. Agusan, Butuan, 3 June 1911, Weber 139 (AMES!, holotype; MO!, isotype).

Ascochilus calceolaris Garay, Bot. Mus. Leafl. 23: 161. 1972.

Aerides calceolaris Teijsm. & Binn., Natuurk. Tijdschr. Ned.-Indië. 27: 19. 1864, non J. E. Sm., 1819.

Aerides calceolaris Teijsm. & Binn. (1864) is a later homonym of *A. calceolaris* J. E. Sm. (1819). Garay's *Ascochilus calceolaris*, proposed as a new combination and based on the 1864 homonym, is a nomen novum dating from 1972 (International Code of Botanical Nomenclature, 1983, Article 72.2, Note 1). The earlier specific epithet cited by Garay (1972), based on *Thrixspermum mindanaense*, is available and necessitates the new combination.

Aerides calceolaris J. E. Sm. provides the basionym to *Gastrochilus calceolaris* (J. E. Sm.) D. Don, the type species of the genus *Gastrochilus* D. Don (Christenson, 1985b).

The genus *Ascochilus* has been reviewed by Seidenfaden (1975a).

PHALAENOPSIS BL.

Phalaenopsis section *Deliciosa* E. A. Christenson, sect. nov.

Inflorescentia multifloris ramosis; sepalis petalisque similibus; labellis leviter basibus subsaccatis; callis primaris solis.

TYPE. *Phalaenopsis deliciosa* Reichb. f., Bonplandia 2: 93. 1854.

Inflorescences many flowered, branched; sepals and petals similar; labella somewhat saccate at the base; primary calli only.

The genus *Kingidium* has a complex taxonomic history. Rolfe (1917) erected the genus *Kingiella* for five species that differed from other species in the *Phalaenopsis* complex by having slightly saccate rather than clawed labella. He characterized *Kingiella* "by the union of the lateral sepals with the base of the lip, forming a spur-like mentum, from which the lobes are borne directly, without an unguis furnished with linear appendages" (Rolfe, 1917: 197). Hunt (1970) considered *Kingiella* to be a later homophone of *Kingella* v. Tiegh. (Loranthaceae). Following the ICBN (1983, Article 64.2) Hunt proposed the new name *Kingidium* for Rolfe's *Kingiella* accepting two species *K. decumbens* (Griff.) Hunt and *K. taenialis* (Lindl.) Hunt. Rolfe had chosen *Aerides decumbens* Griff. as the earliest available basionym for his *Kingiella decumbens* (Griff.) Rolfe. This name, based on a mis-identification of Griffith's type (Griffith 5236, K!) by Rolfe, is a synonym of *Phalaenopsis parishii* Reichb. f. *Phalaenopsis deliciosa* Reichb. f. provides the earliest available specific epithet for the species commonly and incorrectly known as *K. decumbens* (Sweet, 1970; Teuscher, 1977). If *K. decumbens*, sensu Hunt, is maintained in *Kingidium* it must be called *K. deliciosa* (Reichb. f.) Sweet.

The two species of *Kingidium* represent independent, parallel development of saccate labella and are best placed in different sections of *Phalaenopsis*. *Kingidium*, based on a single char-

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acter and polyphyletic, does not warrant generic status. Recognizing either species as a distinct genus makes *Phalaenopsis* a paraphyletic and therefore unnatural group (Christenson, unpubl.). Smith (1933) and Holtum (1947) reduced *K. decumbens* to *Phalaenopsis* and Shim (1982) reduced this species to *Polychilos*, sensu Shim (= *Phalaenopsis* as accepted here). Garay and Sweet maintain *Kingidium* as distinct from *Phalaenopsis*. Following Holtum and Smith *K. deliciosa* is accepted as a *Phalaenopsis*, *P. deliciosa* Reichb. f.

The synonymy of *Phalaenopsis deliciosa* is rather complex and is given here for clarity largely following the work of Sweet (1970) and Teuscher (1977):

- Phalaenopsis deliciosa* Reichb. f., Bonplandia 2: 93. 1854. TYPE: Java, Tjikkoja, Zollinger 1429 (w!).
Aerides decumbens auctt. non Griff.; Bechtel, Cribb & Launert, 1981: 282; Hawkes, 1965: 255; Holtum, 1947: 286; 1964: 669; Hunt, 1970: 97; Rolfe, 1917: 197; Saldanha & Nicolson, 1976: 842; Seidenfaden & Smitinand, 1962: 544; Shim, 1982: 28; Smith, 1933: 366; Tang & Wang ex Merrill & Metcalf, 1945: 7.
Aerides latifolia Thw., Enum. Pl. Zeyl. 429. 1861. TYPE: Ceylon, Thwaites C.P.3495 (k!, lectotype; g! (2), pl!, isotypes).
Phalaenopsis bella Teijsm. & Binn., Tijdschr. Ned.-Indië. 24: 321. 1862, ex char.
Phalaenopsis hebe Reichb. f., Hamb. Gartenz. 18: 35. 1862, ex char.
Phalaenopsis wightii Reichb. f., Bot. Zeitung (Berlin) 20: 214. 1862, ex ic. (Hb. Reichb. 22223, w!).
Phalaenopsis amethystina Reichb. f., Gard. Chron. 1865: 602. 1865, ex ic. (Hb. Reichb. 22230, w!).
Doritis wightii (Reichb. f.) Benth. & J. D. Hook., Gen. Pl. 3: 574. 1883.
Doritis latifolia (Thw.) Trim., Cat. 89. 1885.
Phalaenopsis alboviolacea Ridl., Trans. Linn. Soc. London, Bot., Ser. 2, 3: 373. 1893, ex char.
Doritis philippinensis Ames, Orchid. 2: 235. 1908. TYPE: The Philippines, cult. ex Mt. Miraveles, 1905, Merrill s.n. (AMES!; Hb. Ames 10055).
Doritis hebe (Reichb. f.) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 1: 968. 1913.
Kingiella decumbens (Griff.) Rolfe, Orchid Rev. 25: 197. 1917, excluding the basionym.
Kingiella hebe (Reichb. f.) Rolfe, Orchid Rev. 25: 197. 1917.
Kingiella philippinensis (Ames) Rolfe, Orchid Rev. 25: 197. 1917.
Biermannia decumbens (Griff.) Tang & Wang ex Merrill & Metcalf, Lingnan Sci. J. 21: 7. 1945, excluding the basionym.
Phalaenopsis decumbens (Griff.) Holtt., Gard. Bull. Straits Settlem. 11: 286. 1947, excluding the basionym.
Kingidium decumbens (Griff.) P. F. Hunt, Kew Bull. 24: 97. 1970, excluding the basionym.
Kingidium delicosum (Reichb. f.) H. R. Sweet, Amer. Orchid Soc. Bull. 39: 1095. 1970.
Polychilos decumbens (Griff.) Shim, Malayan Nat. J. 36: 28. 1982, excluding the basionym.

Phalaenopsis deliciosa is morphologically intermediate between *Phalaenopsis* sections *Phalaenopsis* and *Stauroglottis* on the one hand and the remainder of the genus *Phalaenopsis* (*Polychilos*, sensu Shim) as noted by Shim (1982). This species has the side lobes and primary callus type of *Polychilos*, sensu Shim, but lacks the secondary callus found in other members of that group. Because of this intermediate morphologic position and the unusual saccate labellum, *P. deliciosa* is treated as a distinct, monotypic section.

Shim (1982) cited Hunt (1970) when listing *K. decumbens* as the lectotype of *Kingidium* although Hunt does not mention a lectotype in that publication. *Kingiella* and *Kingidium* were explicitly lectotypified with *K. taenialis*, not *K. decumbens*, by Hunt (1971). Thus a new section is proposed for *P. deliciosa*. *Kingidium*, *Kingiella*, and *Polychilos* sect. *Kingidium* (P. F. Hunt) Shim are referred to *Phalaenopsis* sect. *Aphyllae* (see below).

***Phalaenopsis taenialis* (Lindl.) E. A. Christenson & U. C. Pradhan, comb. nov.**

- Aerides taeniale* Lindl., Gen. & Sp. Orch. Pl. 239. 1833. TYPE: Nepal, Wallich s.n. (k!, holotype; w! (fragm.), isotype).
Aerides carnosa Griff., Not. Pl. Asiat. 3: 369. 1851; Icon. Pl. Asiat. t. 328. 1851, ex ic.
Doritis taenialis (Lindl.) J. D. Hook., Fl. Brit. Ind. 6: 31. 1890.
Kingiella taenialis (Lindl.) Rolfe, Orchid Rev. 25: 197. 1917.
Biermannia taenialis (Lindl.) Tang & Wang, Act. Phytotax. Sin. 1: 96. 1951.
Kingidium taeniale (Lindl.) P. F. Hunt, Kew Bull. 24: 98. 1970.
Polychilos taenialis (Lindl.) P. S. Shim, Malayan Nat. J. 36: 28. 1982.

Phalaenopsis taenialis, Hunt's second *Kingidium* species, is not closely related to *P. deliciosa*. Rather, *P. taenialis* is closely related to *P. braeana* (J. D. Hook.) E. A. Christenson and the other species of *Phalaenopsis* sect. *Aphyllae* as shown by their similar floral morphology, deciduous habit, and post-pollination behavior (chlorophyll of the perianth, verified in *P. hainanensis* and *P. taenialis*). Rolfe (1917) remarked upon the possible relationship of *Phalaenopsis* sect. *Aphyllae* with *P. taenialis* when he described *Kingiella*, i.e., *P. stobartiana* "may possibly belong to this genus [Kingiella], but the description is quite inadequate, and the habitat is unrecorded" (1917: 197). At that time the Reichenbach Herbarium was sealed and Rolfe lacked access to either Reichenbach's herbarium material or drawings.

In June 1984 Udai C. Pradhan and I were able to compare flowering material of *Phalaenopsis*

taenialis from Kalimpong with *P. hainanensis* obtained from Burma. We concurred that *Kingidium taenialis* does not warrant separate generic status and that this species is referable to *Phalaenopsis* sect. *Aphyllae*.

Phalaenopsis hainanensis has been reported as *P. wilsonii* Rolfe (Haase, 1975a) and *P. stobartiana* Reichb. f. (Haase, 1975b), and was reduced to a synonym of *P. stobartiana* by Sweet (1980). New collections of *P. hainanensis* confirm that the species is distinct from *P. stobartiana* (Garay, pers. comm.).

Phalaenopsis braceana (J. D. Hook.) E. A. Christenson, comb. nov.

Doritis braceana J. D. Hook., Fl. Brit. Ind. 6: 196. 1890; Ann. Roy. Bot. Gard. (Calcutta) 5: t. 60. 1895, ex ic.

Hooker based his description of *Doritis braceana* on a drawing by Brace and no herbarium material was preserved. This species has been frequently treated as a synonym of *Phalaenopsis taenialis* by authors. Based on herbarium material at AMES *P. braceana* appears to be a distinct sister species of *P. taenialis*. The spurred labellum is a synapomorphy for these two species within *Phalaenopsis* sect. *Aphyllae*. Garay (pers. comm.) considers the spurred labellum a generic character and accepts *Kingidium*. I contend that these species are *Phalaenopsis* and that the presence of a spur does not warrant generic separation.

RHYNCHOSTYLYS Bl.

Rhynchostylis gigantea (Lindl.) Ridl. subspecies. *violacea* (Lindl.) E. A. Christenson, comb. et stat. nov.

Vanda violacea Lindl., Bot. Reg. 27: Misc. 12, 33. 1841. TYPE: *Loddiges s.n.* (k!).

Rhynchostylis violacea (Lindl.) Reichb. f., Bonplandia 2: 93. 1854.

Saccolabium violaceum (Lindl.) Reichb. f., Bonplandia 2: 93. 1854, pro syn.

Anota violacea (Lindl.) Schltr., Orchideen 588. 1914.

Authors have commonly considered *Rhynchostylis* as comprised of up to five species: *R. coelestis* (Reichb. f.) Reichb. f., *R. gigantea* (Lindl.) Ridl., *R. praemorsa* Bl., *R. retusa* (L.) Bl., and *R. violacea* (Lindl.) Reichb. f. However, only three taxa deserve species status: *R. coelestis*, *R. gigantea* and *R. retusa*.

Rhynchostylis gigantea is known from Borneo, Burma, Thailand and the Philippines. Philippine plants of *R. gigantea* have been maintained as a distinct species, *R. violacea* (Ames, 1925; Ames & Quisumbing, 1933 (as *Anota violacea*); Valmayor, 1985). They differ from the Southeast

Asian plants merely by having a less distinctly lobulate apex to the labellum; the apex is more gradually tapered in the Philippine plants. This difference does not warrant specific status and *R. violacea* is reduced to a subspecies. The Philippine plants are treated at the level of subspecies on the basis of their distinct geographic range.

Rhynchostylis coelestis is endemic to Thailand and displays little variation. However, *R. retusa*, the most widely distributed species, is known from Sri Lanka and southern India north into Nepal, Sikkim, and Bhutan, east throughout Southeast Asia, into Java and Borneo and north to the Philippines. *Rhynchostylis retusa* is highly variable and displays several intergrading facies. The Philippine race of *R. retusa* has been recognized as a distinct species, *R. praemorsa* (Kennedy, 1979) but this entity should be reduced to synonymy under *R. retusa* (Ames, 1925; Ames & Quisumbing, 1933; Bechtel et al., 1980; Valmayor, 1985). The various facies of *R. retusa*, which can not be satisfactorily characterized in a formal taxonomy, are best treated informally as cultivars and horticultural varieties.

Key to the Species of Rhynchostylis

1. Inflorescence upright, flowers white marked with lilac, base of column with a pair of small flanges (vestigial column wings), tip of spur distinctly bent downwards. *R. coelestis*.
1. Inflorescence pendent, flowers white marked with pink or purple (never lilac), base of column unadorned and the lip appearing 1-lobed, spur not bent.
 2. Column foot present, tip of spur rounded. *R. retusa*.
 2. Column foot absent, tip of spur angular. *R. gigantea*.

Rhynchostylis latifolia C. E. C. Fischer was transferred to *Schoenorchis* by Saldanha (1974) and to *Xenikophyton* by Garay (1972, as *X. smeeanum*). The placement of this species and the relationship of *Schoenorchis* and *Xenikophyton* require further study. Regardless, this taxon is not referable to *Rhynchostylis* as currently understood.

VANDA JONES

Vanda flabellata (Rolfe ex Downie) E. A. Christenson, comb. nov.

Aerides flabellata Rolfe ex Downie, Kew Bull. 1925: 387. 1925. TYPE: Thailand, Doi Suthep, Kerr 275 (k!).

Aerides flabellata Rolfe ex Downie is aberrant in *Aerides* and is better placed in the genus *Vanda* as suggested by both Garay (1972) and Seidenfaden (1973). The column wings, a stout column

with an obtuse front edge to the operculum, short broad stipe and praemorse leaf tips are characteristic of the genus *Vanda* and absent in *Aerides*, s. str. Their presence in *A. flabellata* supports its transfer to *Vanda*. *Vanda coerulescens* Griff., *V. lilacina* Teysm. & Binn., and *V. testacea* (Lindl.) Reichb. f. (syn.: *V. parviflora* Lindl.) are closely related to *V. flabellata* as shown by their similar labella structure having rather long, narrow spurs for *Vanda*. These species approach the floral morphology of *Holcoglossum* Schltr. but differ sufficiently in characters of leaf morphology, pigmentation, and details of the stipe and pollinia to maintain them in *Vanda*. In *Holcoglossum* the stipes are long, narrow, and have porate pollinia. In contrast the stipes of *Vanda* are short, broad, and have pollinia that are deeply notched.

Vanda flabellata, previously recorded from Indochina and Thailand (Seidenfaden, 1982), has been recently found in South Yunnan, China (Tsi, pers. comm.).

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